

SYSTEM AND METHOD FOR PERFORMING DIAGNOSTICS ON A  
MOBILE STATION USING OVER-THE-AIR TRANSFER  
OF INTERPRETED BYTE-CODE PROGRAM

## ABSTRACT OF THE DISCLOSURE

5 Sub A There is disclosed a mobile station diagnostic testing system  
for use in a wireless network comprising a plurality of base  
stations, each of the base stations capable of communicating with  
a plurality of mobile stations. The mobile station diagnostic  
testing system tests the operation of a first mobile station. The  
10 mobile station diagnostic testing system comprises: 1) a database  
for storing a mobile station diagnostic testing file comprising a  
mobile station diagnostic testing program in interpreted byte-code  
format; and 2) a diagnostics controller coupled to the database for  
receiving a notification indicating that a fault has occurred in  
15 the first mobile station. In response to receipt of the  
notification, the mobile diagnostics testing system retrieves the  
mobile station diagnostic testing file from the database and  
transmits it to the first mobile station. Receipt of the mobile  
station diagnostic testing file causes the mobile station to  
20 execute the mobile station diagnostic testing program.

There also is disclosed a mobile station capable of being  
tested from a wireless network by an over-the-air (OTA) mobile



*Sub A1*  
diagnostic testing process. The mobile station comprises: 1) an RF transceiver for receiving and demodulating forward channel messages from the wireless network and for modulating and transmitting reverse channel messages to the wireless network; and 2) a main controller for receiving the demodulated forward channel messages from the RF transceiver and extracting therefrom a mobile station diagnostic testing file containing a mobile station diagnostic testing program in interpreted byte-code format. The main controller, in response to receipt of the mobile station diagnostic testing file, interprets and executes the mobile station diagnostic testing program.